

WHAT IS CLAIMED:

1 1. A method for managing product development, the method
2 comprising:

3 storing technical requirements data for a product including product data,
4 material data, and packaging data in a structured relational database;

5 linking unstructured documents to the technical requirements data
6 within the structured relational database;

7 grouping technical requirements data into technical requirements
8 summaries to define a finished product;

9 linking the technical requirements summaries for the finished product
10 to facilitate user navigation and searchability among related technical requirements
11 summaries;

12 recording changes made to the technical requirements data and
13 associated user identification information;

14 storing approval information for the technical requirements data in the
15 relational database; and

16 electronically communicating approved technical requirements data for
17 use in manufacturing and distributing the finished product.

1 2. The method of claim 1 wherein the step of storing approval
2 information comprises storing an electronic signature which uniquely identifies a user.

1 3. The method of claim 1 wherein the step of linking unstructured
2 documents comprises associating structured attributes with the unstructured documents
3 and storing the associated structured attributes in the relational database.

1 4. The method of claim 1 further comprising:
2 validating the technical requirements data during entry relative to
3 previously entered technical requirements data based on predetermined rules.

1 5. The method of claim 1 wherein the technical requirements
2 summaries include at least two levels of summaries, the method further comprising:

3 storing separate approval information for each level of technical
4 requirements summaries.

1 6. The method of claim 5 wherein the levels of summaries include
2 at least a master level approved by a first user and an individual level approved by the
3 same user or by a different user.

1 7. The method of claim 5 wherein the levels of summaries include
2 at least a master level and a plurality of individual level summaries associated with at
3 least one master level summary.

1 8. The method of claim 1 wherein the technical requirements
2 summaries include a formula card, a raw material specification, a packing standard,
3 a packaging material specification, a supplier approval, and an approved country
4 matrix.

1 9. The method of claim 1 further comprising:
2 limiting access to subsets of technical requirements data based on a user
3 identification and password.

1 10. The method of claim 1 wherein the step of grouping technical
2 requirements data comprises grouping data to form different technical requirements
3 summaries based on requirements or practices of a particular geographic region.

1 11. The method of claim 1 wherein the step of grouping technical
2 requirements data comprises combining different technical requirements data to form
3 technical requirements summaries based on requirements or practices of business units
4 within an organization.

1 12. The method of claim 1 wherein the step of storing technical
2 requirements data comprises storing draft versions of the technical requirements data.

1 13. The method of claim 1 wherein the step of storing technical
2 requirements data comprises storing approved technical requirements data.

1 14. The method of claim 1 wherein the step of storing technical
2 requirements data comprises storing archived technical requirements data.

1 15. The method of claim 1 wherein the step of storing technical
2 requirements data comprises:
3 storing draft, approved, and archived versions of the technical
4 requirements data; and
5 linking the draft, approved, and archived versions of the technical
6 requirements within the relational database.

1 16. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping product
3 components, product amounts, in-process product measures, and finished product
4 measures into a formula card.

1 17. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping package
3 components, package amounts, in-process package measures, and finished package
4 measures into a packing standard.

1 18. The method of claim 17 wherein the packing standard comprises
2 consumer level data, customer level data, and transport level data.

1 19. The method of claim 18 wherein the consumer level data
2 comprises primary package data and a product formula.

1 20. The method of claim 18 wherein a single business group
2 develops the consumer level data, the customer level data, and the transport level data.

1 21. The method of claim 18 further comprising creating and
2 approving each level of data within a different business group.

1 22. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping product
3 constituents and associated levels for a given raw and packaging material into a raw
4 and packaging material specification.

1 23. The method of claim 22 further comprising:
2 separating the raw and packaging material specification into a master
3 level and an individual level, the master level including technical information and the
4 individual level containing logistical and shipping information.

1 24. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping
3 packaging constituents and associated levels for a given packaging material into a
4 packaging material specification.

1 25. The method of claim 24 further comprising:
2 separating the packaging material specification into a master level
3 containing technical information and an individual level containing logistical and
4 shipping information.

1 26. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping raw
3 material data by approved supplier.

1 27. The method of claim 1 wherein the step of grouping technical
2 requirements data into technical requirements summaries comprises grouping finished
3 products by approved country of sale.

1 28. The method of claim 1 wherein the step of linking unstructured
2 documents comprises linking text documents to the technical requirements data.

1 29. The method of claim 28 wherein the text documents specify test
2 methods, process standards, general standards, standard operating procedures, or
3 recommended procedures.

1 30. The method of claim 1 wherein the step of linking unstructured
2 documents comprises linking artwork for product packaging to the technical
3 requirements data.

1 31. A system for managing product development, the system
2 comprising:

3 a technical requirements data module for a product including product
4 data, material data, and packaging data in a structured relational database;

5 a module for linking unstructured documents to the technical
6 requirements data within the relational database;

7 a module for grouping technical requirements data into technical
8 requirements summaries to define a finished product;

9 a module for linking the technical requirements summaries for the
10 finished product to facilitate user navigation among related technical requirements
11 summaries;

12 a module for recording changes made to the technical requirements data
13 and associated user identification information;

14 a module for storing approval information for the technical
15 requirements data in the relational database; and

16 a module for electronically communicating approved technical
17 requirements data for use in manufacturing and distributing the finished product.

1 32. The system of claim 31 wherein the module for storing approval
2 information stores an electronic signature which uniquely identifies a user.

1 33. The system of claim 31 wherein the module for linking
2 unstructured documents associates structured attributes with the unstructured
3 documents and stores the associated structured attributes in the relational database.

1 34. The system of claim 31 wherein the technical requirements
2 summaries include at least two levels of summaries, the system further comprising:
3 means for storing separate approval information for each level of
4 technical requirements summaries.

5 35. The system of claim 34 wherein the levels of summaries include
6 at least a master level approved by a first user and an individual level approved by a
7 second user.

1 36. The system of claim 34 wherein the levels of summaries include
2 at least a master level and a plurality of individual level summaries associated with at
3 least one master level summary.

1 37. The system of claim 31 wherein the technical requirements
2 summaries include a formula card, a raw material specification, a packing standard,
3 a packaging material specification, and a supplier approval and approved country
4 matrix.

1 38. The system of claim 31 further comprising:
2 a module for limiting access to subsets of technical requirements data
3 based on a user identification and password.

1 39. The system of claim 31 wherein the module for grouping
2 technical requirements data groups data to form different technical requirements
3 summaries based on requirements or practices of a particular geographic region.

1 40. The system of claim 31 wherein the technical requirements data
2 module includes draft versions of the technical requirements data.

1 41. The system of claim 32 wherein the technical requirements data
2 module includes draft, approved, and archived versions of the technical requirements
3 data;

4 wherein the draft, approved, and archived versions of the technical
5 requirements are linked within the relational database.

1 42. The system of claim 31 method of claim 1 wherein the module
2 for grouping technical requirements data into technical requirements summaries
3 groups product components, product amounts, in-process product measures, and
4 finished product measures into a formula card.

1 43. The system of claim 31 wherein the module for grouping
2 technical requirements data into technical requirements summaries groups package
3 components, package amounts, in-process product measures, and finished package
4 measures into a packing standard.

1 44. The system of claim 43 wherein the packing standard comprises
2 consumer level data, customer level data, and transport level data.

1 45. The system of claim 44 wherein the consumer level data
2 comprises primary package data and a link to a product formula.

1 46. The system of claim 31 wherein the module for grouping
2 technical requirements data into technical requirements summaries groups product
3 constituents and associated levels for a given raw material into a raw material
4 specification.

1 47 The system of claim 46 wherein the module for grouping
2 technical requirements data creates a master level raw materials specification and an
3 individual level raw materials specification, the master level including technical
4 information and the individual level containing logistical and shipping information, the
5 master and individual levels being individually reviewed and approved.

1 48. The system of claim 31 wherein the module for grouping
2 technical requirements data into technical requirements summaries groups raw and

3 packaging constituents and associated levels for a given raw and packaging material
4 into a packaging material specification.

1 49. The system of claim 48 wherein the module for grouping
2 technical requirements creates a master level material specification containing
3 technical information and an individual level containing logistical and shipping
4 information.

1 50. The system of claim 31 wherein the module for grouping
2 technical requirements data into technical requirements summaries groups raw material
3 data by approved supplier.

1 51. The system of claim 31 wherein the module for grouping
2 technical requirements data into technical requirements summaries groups finished
3 products by approved country of sale.

1 52. The system of claim 31 wherein the module for linking
2 unstructured documents links text documents to the technical requirements data by
3 reference to a stored file containing at least one text document.

1 53. The system of claim 52 wherein the text documents specify test
2 methods, process standards, general standards, standard operating procedures, or
3 recommended procedures.

1 54. The system of claim 31 wherein the module for linking
2 unstructured documents links artwork for product packaging to the technical
3 requirements data by reference to a stored file containing associated artwork
4 specifications or graphics.

1 55. A computer readable storage medium having stored data
2 representing instructions executable by a computer to manage product development,
3 the computer readable storage medium comprising:

4 instructions for storing technical requirements data for a product
5 including product data, material data, and packaging data in a structured relational
6 database;

7 instructions for linking unstructured documents to the technical
8 requirements data within the structured relational database;

9 instructions for grouping technical requirements data into technical
10 requirements summaries to define a finished product;

11 instructions for linking the technical requirements summaries for the
12 finished product to facilitate user navigation among related technical requirements
13 summaries;

14 instructions for recording changes made to the technical requirements
15 data and associated user identification information;

16 instructions for storing approval information for the technical
17 requirements data in the relational database; and

18 instructions for electronically communicating approved technical
19 requirements data for use in manufacturing and distributing the finished product.

1 56. The computer readable storage medium of claim 55 wherein the
2 instructions for storing approval information comprise instructions for storing an
3 electronic signature which uniquely identifies a user.

1 57. The computer readable storage medium of claim 55 wherein the
2 instructions for linking unstructured documents comprise instructions for associating
3 structured attributes with the unstructured documents and storing the associated
4 structured attributes in the relational database.

1 58. The computer readable storage medium of claim 55 further
2 comprising:

3 instructions for validating the technical requirements data during entry
4 relative to previously entered technical requirements data based on predetermined
5 rules.

1 59. The computer readable storage medium of claim 55 wherein the
2 technical requirements summaries include at least two levels of summaries, the
3 computer readable storage medium further comprising:

4 instructions for storing separate approval information for each level of
5 technical requirements summaries.

1 60. The computer readable storage medium of claim 59 wherein the
2 levels of summaries include at least a master level approved by a first user and an
3 individual level approved by the first user or a second user.

1 61. The computer readable storage medium of claim 59 wherein the
2 levels of summaries include at least a master level and a plurality of individual level
3 summaries associated with at least one master level summary.

1 62. The computer readable storage medium of claim 55 wherein the
2 technical requirements summaries include a formula card, a raw material specification,
3 a packing standard, a packaging material specification, a supplier approval, and an
4 approved country matrix.

1 63. The computer readable storage medium of claim 55 further
2 comprising:

3 instructions for limiting access to subsets of technical requirements data
4 based on a user identification and password.

1 64. The computer readable storage medium of claim 55 wherein the
2 instructions for grouping technical requirements data comprise instructions for
3 grouping data to form different technical requirements summaries based on
4 requirements or practices of a particular geographic region.

1 65. The computer readable storage medium of claim 55 wherein the
2 instructions for grouping technical requirements data comprise instructions for
3 combining different technical requirements data to form technical requirements

4 summaries based on requirements or practices of business units within an
5 organization.

1 66. The computer readable storage medium of claim 55 wherein the
2 instructions for storing technical requirements data comprise instructions for storing
3 draft versions of the technical requirements data.

1 67. The computer readable storage medium of claim 55 wherein the
2 instructions for storing technical requirements data comprise instructions for storing
3 approval information associated with the technical requirements data.

1 68. The computer readable storage medium of claim 55 wherein the
2 instructions for storing technical requirements data comprise:
3 instructions for storing draft, approved, and archived versions of the
4 technical requirements data; and
5 instructions for linking the draft, approved, and archived versions of
6 the technical requirements within the relational database.

1 69. The computer readable storage medium of claim 55 wherein the
2 instructions for grouping technical requirements data into technical requirements
3 summaries comprise instructions for grouping product components, product amounts,
4 in-process product measures, and finished product measures into a formula card.

1 70. The computer readable storage medium of claim 55 wherein the
2 instructions for grouping technical requirements data into technical requirements
3 summaries comprise instructions for grouping package components, package amounts,
4 in-process product measures, and finished package measures into a packing standard.

1 71. The computer readable storage medium of claim 70 wherein the
2 packing standard comprises consumer level data, customer level data, and transport
3 level data.

1 72. The computer readable storage medium of claim 55 wherein the
2 instructions for grouping technical requirements data into technical requirements
3 summaries comprise instructions for grouping product constituents and associated
4 levels for a given raw or package material into a raw or package material
5 specification, respectively.